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| 09/672,345 | 09/28/2000 | David I. Poisner | 10559/364001/P8247-2 | 7729 |

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| EXAMINER | |
|---|---|
| KIM, HONG CHONG | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2186 | 13 |

DATE MAILED: 04/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



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| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/672,345 | POISNER, DAVID I. | |
| | Examiner | Art Unit | |
| | Hong C Kim | 2186 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3a* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

**Detailed Action**

1. Claims 1-30 are presented for examination. Claims 31-33 has been canceled by the amendment. This office action is in response to the RCE filed on 3/24/03.

2. Receipt is acknowledged of information disclosure statement filed on 1/12/01, which the statement has been placed of record in the file. Information disclosed and listed on PTO 1449 was considered.

***Claim Rejections - 35 USC § 112***

3. Claims 1-30 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It appears that routing a data access from a peripheral device to a first main memory in the computer and not to a second multiported memory in the computer and routing a status access from the peripheral device to the second multi-ported memory in the computer and not to the first main memory in the computer was not described in the specification at the time the application was filed.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6 and 9-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Dinwiddie, Jr. et al. (Dinwiddie) US Patent 4,371,932.

As to claim 1, Dinwiddie discloses the invention as claimed. Dinwiddie discloses a computer system, comprising: a noncached multi-ported memory (Fig. 1 Ref. 25, 27, and 30, bidirectional arrows on both sides reads on this limitation, col. 14 lines 60-63); a main memory (Fig. 1 Ref 7 or 22 or 15), a CPU coupled to the multi-ported memory (Fig. 1 Ref. 25 or 29); a bus (Fig. 1 Ref. 16) configured to communicate with one or more peripheral devices (Fig. 1 Refs. 3, 4, 5 & 6) coupled to the multi-ported memory and configured to access the multiported memory independently of the CPU; wherein the computer system is configured so that control accesses from the CPU are directed to the multiported memory and not to the main memory (Fig. 1 addr bus & command register, Ref. 25 and col. 14 lines 47-63) and data accesses from the CPU are directed to the main memory an not to the dual-ported memory (Col. 5 lines 9-10 and 48-49).

As to claim 27, Dinwiddie discloses the invention as claimed above. Dinwiddie integrated circuit comprising a memory controller including at least two electrical ports for coupling to communication channel (Fig. 1)

As to claim 2, Dinwiddie discloses the invention as claimed above. Dinwiddie further discloses an OS is configured such that accesses to the multiported are not cached (Fig. 1).

As to claims 3 and 27, Dinwiddie discloses the invention as claimed. Dinwiddie further discloses the multi-ported memory is dual ported (Fig. 1 Ref. 25).

As to claim 4, Dinwiddie discloses the invention as claimed above. Dinwiddie further discloses the multiported memory is embedded within a memory controller (Fig. 1).

As to claim 5, Dinwiddie discloses the invention as claimed above. Dinwiddie further discloses the multiported memory and memory controller are integrated into a single chip (Fig. 1).

As to claims 6 and 29, Dinwiddie discloses the invention as claimed above. Dinwiddie further discloses SRAM (col. 14 line 60, register read on this limitation).

As to claim 9, Dinwiddie discloses the invention as claimed above. Dinwiddie further discloses I/O bus (Fig. 1 Ref. 16).

As to claim 10, Dinwiddie discloses a method comprising: routing a data access from a

peripheral device to a first memory in the computer and not to a second memory in the computer (Fig. 1 Ref. 7 or 22 or 15) and routing a status access from the peripheral device to the second memory in the computer and not to the first memory in the computer ( Fig. 1 Ref. 25 or 30).

As to claim 11, Dinwiddie further discloses main memory (Fig. 1 Ref. 7 or 22 or 15).

As to claim 12, Dinwiddie discloses the invention as claimed above. Dinwiddie further discloses the second memory comprises memory included in a memory controller (Fig. 1 Ref 2).

As to claim 13, Dinwiddie further discloses dual ported (Fig. 1 Ref. 25 and col. 14 lines 47-63).

As to claims 14 and 16-18, claims 14, and 16-18 are a rephrasing of claims 10-13 in a computer software form. The claims are rejected for the same reason as set forth above in claims

As to claim 15, Dinwiddie further discloses I/O controller (Fig. 1 Ref. 2).

As to claim 19, Dinwiddie discloses a method comprising: routing a data access from a CPU to a first memory in the computer and not to a second memory in the computer (Fig. 1 Ref. 7 or 22 or 15) and routing a control access from the CPU to the second memory in the computer

and not to the first memory in the computer (Fig. 1 Ref. 25 or 30).

As to claim 20, Dinwiddie further discloses main memory (Fig. 1 Ref. 7 or 22 or 15).

As to claim 21, Dinwiddie further discloses the second memory comprises memory included in a memory controller (Fig. 1 Ref 2).

As to claim 22, Dinwiddie further discloses dual ported (Fig. 1 Ref. 25 and col. 14 lines 60-63).

As to claims 23- 26, claims 23-26 are a rephrasing of claims 19-22 in a computer software form. The claims are rejected for the same reason as set forth above in claims 19-22

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 7 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinwiddie, Jr. et al. (Dinwiddie) US Patent 4,371,932 in view of McMahon et al (McMahon) US

Patent 5,784,699.

As to claims 7 and 30, Dinwiddie discloses the invention as claimed above. However, Dinwiddie does not specifically disclose reservation bits mapped to block of general purpose memory in the multiported memory. McMahon discloses reservation bits mapped to block of general purpose memory in the multiported memory (Fig. 3A) for the purpose of providing fast search and allocation/dealloction of availability of a block (col. 3 lines 7-26).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate reservation bits mapped to block of general purpose memory in the multiported memory as shown in McMahon into the invention of Dinwiddie because it would provide fast search and allocation/dealloction of availability of a block.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dinwiddie, Jr. et al. (Dinwiddie) US Patent 4,371,932 in view of Young et al (Young) US Patent 5,546,554.

As to claim 8, Dinwiddie discloses the invention as claimed above. However, neither Dinwiddie does not specifically disclose virtual addresses within multiported are mapped to physical address with smart addressing. Young discloses virtual addresses within multiported are

mapped to physical address with smart addressing (Fig. 5a) for the purpose of memory that appears to an application to be larger and more uniform than it is.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate virtual addresses within multiported are mapped to physical address with smart addressing as shown in Young into the invention of Dinwiddie because it would provide capability of memory that appears to an application to be larger and more uniform than it is.

***Response to Amendment***

10. Applicant's arguments filed on 3/24/03 have been fully considered but they are not persuasive.

Applicant's argument that the reference does not disclose routing a data access from a peripheral device to a first main memory in the computer and not to a second multiported memory in the computer and routing a status access from the peripheral device to the second multi-ported memory in the computer and not to the first main memory in the computer is not considered persuasive. Dinwiddie discloses routing a data access from a peripheral device to a first main memory in the computer and not to a second multiported memory in the computer (Fig. 1 Ref. 22 or 15 or 7) and routing a status access from the peripheral device to the second multi-ported memory in the computer and not to the first main memory in the computer ( Fig. 1 Ref. 25 or 30).

***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. a shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 USC 133, MPEP 710.02, 710.02(b)).

13. When responding to the office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. § 1.111(c).

14. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

15. Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Hong Kim whose telephone number is (703) 305-3835. The Examiner can normally be reached on the weekdays from 8:30 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Matt Kim, can be reached on (703) 305-3821.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

16. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

**or faxed to TC-2100:**
After-Final (703) 746-7238
Official (703) 746-7239 (for formal communications intended for entry)

Non-Official/Draft (703) 746-7240 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

HK
Primary Patent Examiner
April 7, 2003